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ABSTRACT

This materials packet, developed for the Higher Education Component of an American Association of Colleges for Teacher Education (AACTE) symposium on cooperative learning, is divided into four sections. In the first section, quotes are provided from national reports which stressed the need for active learning at the collegiate level. In the second section, narrative comments are presented from education students who have implemented cooperative learning in their K-12 classrooms in urban and multicultural settings. The third section is comprised of a paper presented at the 1989 annual meeting of the American Educational Research Association on the subject of using cooperative learning as a teaching strategy in teacher education courses. The final section offers an annotated bibliography of cooperative learning research and practice at the collegiate level. (JD)

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Materials Packet for Higher Education Component of AACTE Symposium "Cooperative Learning: Kids Helping Kids, Teachers Helping Teachers"

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CARNEGIE FOUNDATION FOR THE ADVANCEMENT OF TEACHING (1985)
"Higher Education and the American Resurgence"

"A number of authorities who have studied the growth and development of students were consulted to determine how colleges can encourage both creativity and civic responsibility. There was a wide variety of responses, but one recommendation was universal: the student must become more actively involved in his or her own learning. Far too often, students are treated as the object of learning rather than as colleagues in the learning process."

"College education is nowhere near as exciting nor as effective as it could be. In many ways it is boring, particularly the classroom part. The student is expected to sit quietly in class, listen to a lecture, make notes with the purpose of memorizing not only the information about the subject being transmitted but the interpretation that is provided in a predigested form."

"Students spend somewhere between 5 and 20 percent of their time in active participation in class. Discussions with students and observations of undergraduate classes suggest that active classroom participation is probably closer to the 5 per cent than the 20 per cent."

"A student cannot learn to reason solely by listening to a description of how a teacher or professor has reasoned....To become creative, one must practice being creative....They (students) must fashion their own conclusions, tentative as they may be, and their own plans for learning.....There is no more critical task ahead for American higher education than to transform the undergraduate experience into a more active learning process."

ASSOCIATION OF AMERICAN COLLEGES (1985)
Project on redefining the meaning and purpose of baccalaureate degrees. "Integrity in the college curriculum: A report to the academic community"

"The curriculum requires support, an environment in which the priorities of the college actively encourage the realization of the learning desired. The quality of the environment can be measured by emphasis on opportunities for active learning and by evidence that students and faculty are engaged in joint enterprise of discovery and growth. The prevailing spirit of pedagogy should reduce the possibilities for passivity in students and authoritarianism in faculties."

NATIONAL INSTITUTE OF EDUCATION (1984)
"Involvement in Learning: Realizing the Potential of American Higher Education," the report of the Study Group on the Conditions of Excellence in American Higher Education.

"But passivity is an important warning sign that may reflect a lack of involvement that impedes the learning process and leads to unnecessary attrition. Students who say they are bored are too often on the road to dropping out."

"Faculty should make greater use of active modes of teaching and require that students take greater responsibility for their learning. This recommendation is about the more effective delivery of academic programs through diversifying teaching styles. We are making it in the conviction that the passive student is one of the greatest challenges facing higher education."

"Those goals (excellence in undergraduate education) can be best attained the report added, if students are directly and actively involved in the learning process...". (Reported in the Chronicle of Higher Education, October 24,1984)

Noting that more than half the 12 million students enrolled in higher education commute to their campuses daily and that more than 40 per cent are enrolled part time the report said, "One of the greatest challenges to administrators and faculty members alike is to find ways to enhance the involvement of an increasingly diverse student body." (From Chronicle of Higher Education summary of NIE report, October 24, 1984)

"There is now a good deal of research evidence to suggest that the more time and effort students invest in the learning process and the more intensely they engage in their own education, the greater will be their growth and achievement, their satisfaction with their educational experiences, and their persistence in college, and the more likely they are to continue their learning."

"The fact that more learning occurs when students are actively engaged in the learning process has extensive implication for each faculty member and administrator in every institution. The most important implications of this fact can be stated in two fundamental principles about the conditions of educational excellence everywhere:

1. The amount of student learning and personal development associated with any educational program is directly proportional to the quality and quantity of student involvement in the program.
2. The effectiveness of any educational policy or practice is directly related to the capacity of that policy or practice to increase student involvement in learning."

COMMENTS FROM CSUDH EDUCATION STUDENTS WHO HAVE IMPLEMENTED COOPERATIVE LEARNING IN THEIR K-12 CLASSROOMS IN URBAN, MULTICULTURAL SETTINGS

A. Comments from Elementary School Teachers Who are Using Cooperative Learning Teams in Their Classrooms

1. Students enjoy studying and working with others a lot more than by themselves. They are more interested, learn more, and definitely obtain better individual test results. - 4th grade

2. Much improved attendance, greater development of social skills, higher achievement, improved ethnic relations. Frees me to also be a facilitator of learning. Students take much more responsibility for their learning. - 4th grade

3. The teams help explain a problem in such a way to each other that someone having difficulty suddenly begins to understand. Respect for each other greatly increased. I could see my ideas flourish in groups that might have died with individuals. - 5th grade

4. Scores are increasing. Children work out their own problems. They verbalize more frequently which allows more practice with content. I cover much more material in a shorter time. I spend less time remediating and I am less drained after a day. - 3rd grade

5. Unpopular children are much more accepted now. More work is being completed correctly. I can now depend on teams to monitor their own on-task behavior and to make sure work is done. I observed my slower students grow more motivated and gain in self-confidence. I saw much growth in their school work. I felt my leaders gained greatly in how to organize and manage the team members. - 4th grade

6. Students show more confidence, try unfamiliar things more readily, and complete more assignments. The partner pairs really help each other do the work after my lesson is presented. - 1st grade.

7. My lower achievers are now offering assistance to those who need it. The captains feel a great sense of responsibility and pride. - K

8. My students are much more aware of each other's interests and problems. They now call each other at home and encourage each other. I do not have to repeat directions any more. This has given me time to really teach and to get to know my students. One boy was the

lowest, hated me, never did any work, always absent and in trouble. This week he passed multiplication and division timed tests and was citizen of the month! - 4th grade

9. I feel that I have been able to cover more content. Students show more confidence, try unfamiliar tasks, and complete more assignments. - 1st grade

10. Most of the students liked helping someone else. The low achievers began to complete assignments and do much better. They like each other more and get along better. The partner pairs do all the work after my teacher-directed part of the lesson. It has been much easier on me. - 1st grade

B. Comments from Junior High School Teachers Who are Using Cooperative Learning Teams in Their Classrooms

1. Cindy - Math

I had heard about it before but never really thought of using it. I tried it in my most difficult class. To actually see some students trying to help others that they had previously been "bagging" on is proof enough for me that cooperative learning is something that everyone should be using. What these students show is genuine care for peers that they, under regular circumstances, could care less about. Test scores and feelings of success have risen a great deal.

2. Sonja - English and Remedial Reading

This particular approach proved very successful with all five of my classes. Under-achievers became responsible and successful students. Higher level students learned to assist those who did not understand. This was beneficial personally, in that a class of "incorrigibles", a class I had all but given up on, actually completed assignments with a high level of success.

3. Paula - Science and Health

I am a strong believer in students learning from students but I was still a bit apprehensive about putting my students into teams/groups. I thought this would only invite more socializing. This was definitely not the case. The creation of cooperative teams put a control over the class that I could not have initiated on my own. The pressure to be on time, complete class and home assignments, and follow class rules was no longer coming from me but from other

students. I found that I was using far less time disciplining.

The most valuable outcome of the cooperative groups, however, was the social effect it has had on my students. I often see students leaning over to give support. I see students helping students to achieve and feel success. Of course, the class is not one-hundred percent on task one-hundred percent of the time, but it sure feels great to see kids that I had once labeled "academically uninvolved" becoming involved and somewhat concerned. For as long as I teach I will create cooperative groups.

4. William - Remedial Reading and English

The cooperative learning material has proved to be very useful. Over my brief two years of teaching experience I have been reluctant to assign group activities. I didn't feel capable of controlling my overcrowded classes. Room space was a second deterrent. After designing and conducting two cooperative learning assignments, my reservations have disappeared. Students were too busy participating to be disruptive. The small room was an inconvenience but was far from prohibitive.

My first cooperative learning project was rocky yet much more successful than anticipated. The second project was an overwhelming winner. The vast majority of my students vigorously participated. The quality of the students' work exceeded the norm. I have no choice other than to use cooperative learning on a regular basis.

5. Matt - Math

I started cooperative learning groups in my 6th and 7th grade classes after a few weeks of teaching. It has turned out to be very beneficial, especially since some of my students do not speak English. Most of the students are very eager to help each other. My instruction time in class is now easier because I have students in the groups help explain things to each other.

6. Walter - Math

I must also sing the praises of cooperative learning techniques for they have been a godsend. Without a doubt, the most productive lesson plans I have used have been tied in with this method. Particularly in math, one can almost watch the light bulbs go on as a group latches onto a concept together. Captains have

their egos stroked, monitors feel important, spokespersons have their moment of glory, and everybody learns -- what more could one ask for?

7. JoAnn - Science

Cooperative learning eliminated some basic behavior problems such as, out of seat unnecessarily, forgetting book or pencils, loud talking, because the students were co-responsible for the group's attitude. No teacher yet can beat the hard cold pressure of three outraged peers.

8. Kevin - Math

I could go on and on about cooperative learning groups, but I will try to be concise. I have found that by putting my students into groups they benefit immensely. I have my students in groups of 3 - 5, each with an assigned captain. Every Tuesday, Wednesday, and Thursday, are "group days" and the students work together on the chosen skill, which I introduced Monday. It all runs pretty much like clockwork and my students respond positively.

Also, if they fail to understand the material through my lesson, they can always get the extra help they need from their peers. In these instances, cooperative learning helps in preventing the students from giving up.

9. Marisa - Math

These 7th graders had been one great behavioral problem from day one, all operating on about the 2nd grade level in maturity and math skills. When I first put them into groups of three or four each and gave them group assignments, they didn't know how to handle it. No teacher had ever requested such group work and cooperation on their part before. Then when it came to earning group points some groups were really upset by losing points when maybe only one member did his or her part. But as we were told, things started to fall into place naturally with them after a short intense period of adjustment. Their attitudes toward helping each other, respecting my judgement and participating more in class improved tremendously. They all know I'm very pleased when they see a big smile on my face over the positive interactions going on among them. Three students who were failing now are producing "C" level work and seem to really enjoy their new found success in math. Everyone feels a sense of importance with their assigned roles in class, and more work is being produced by each student, including more homework

finished and higher grades earned. The students feel better about the class and I feel better about this class, so cooperative learning definitely has produced a success story here.

C. Comments From Senior High School Teachers Who are Using Cooperative Learning in Their Classrooms

1. Denise - Social Studies

The teaching technique of cooperative learning has proven to be most beneficial and timely. In addition to allowing students greater responsibility for their own learning process, cooperative learning has taken the spot light and focus off of me as a teacher. I am no longer seen as the sole force responsible for their learning. Cooperative learning allows my more verbal and active students the opportunity to release this energy in a more positive and productive manner. Cooperative learning has also taught my students valuable social interaction skills.I experienced immediate positive results upon implementing this technique in my class. I introduced cooperative learning into a class where I was experiencing severe discipline problems.

2. David - English

Cooperative learning has brought out a number of previously nameless and faceless students and it has given confidence to others. I find myself less bogged down in correcting papers, better able to control the students who are having discipline problems, and generally happier with the classroom atmosphere.

3. Don - Science

Now I find I'm not the only one doing teaching in our classroom. Team captains were originally selected for their academic standing. Now we are rotating roles, everyone is (almost everyone) very involved in making their group work, and accomplishing the task. The class noise level is a little higher, but they are all doing better on understanding concepts. The students are taking on the responsibility for their learning, and the class hour flies!

4. Susan - Spanish

I have found cooperative learning to be a great help for my students. The students who need help have team members to help them. The students who need challenge have it. The grades have been better as well as class attendance. There is more learning, more practice, and

less fear of failure.

5. Kata - English

I found that my lower track English classes LOVED working in groups and helping each other. A lot of times, these kids are in school against their will and motivating them to do anything for class is a challenge. Once I started the cooperative groups, though, these kids were doing their homework and getting on each other whenever someone else in the group didn't.

6. Alesia - Science

Almost immediately after learning about this new concept, I tried it with my students. Prior to this, students always worked in lab groups. However, there was not the same kind of accountability/interaction between the members of a group as there has been since I tried cooperative learning groups.

I like the results that I have seen in terms of the performance of some students and the increased interaction on the part of other students who were so withdrawn. They like the roles/responsibilities that they must assume. Now they get really upset if we don't have learning teams at least twice a week.

7. Kamal - Math

I am a firm believer that cooperative learning is the most effective tool in the teaching profession. It has made a big difference in improving understanding in all of my classes. Teaching is fun again.

Cooperative learning became a part of my teaching methods exactly ten weeks ago. The classes were divided into groups of four according to ability, sex, ethnicity, and personality. At first the students were not very receptive to the idea of working and sharing with others. Some complained daily: "I like to work alone", "I don't get along with anybody", "She's stupid", "I do not know how to explain things". However I decided to stick with the idea and, given time, I was sure things would work out.

Cooperative learning now is a big hit. Students are excited about learning. Team members care about their teammates, share ideas, and most important, are willing and eager to teach one another. Attendance has improved and discipline problems have practically vanished. Students are working together on application problems rather than simple recall problems. Also,

occasionally teams compare ideas to come up with solutions, especially if a problem is too difficult to solve.

I truly look forward to the days when students are working in groups. My job is much easier now. If a problem needs to be explained, explanations with each team take place rather than on an individual basis.

"THE USE OF COOPERATIVE LEARNING AS A TEACHING STRATEGY IN TEACHER EDUCATION COURSES"

by

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(For Presentation to the 1989 Meeting of the American Education Research Association)

THE USE OF COOPERATIVE LEARNING AS A TEACHING STRATEGY IN TEACHER EDUCATION CLASSES

INTRODUCTION

In the Department of Teacher Education at California State University, Dominguez Hills, research has been conducted on the use of Cooperative Learning in the secondary methods classes in the credential program. Students in these classes learn how to use student learning teams at the 7-12 level. The significant body of research by Aronson, Slavin, Kagan, and the Johnsons points to impressive academic and social gains for students who are required to work cooperatively. In an effort to model the techniques and format of this strategy for future teachers, this course was restructured to incorporate learning teams and interactive practice activities that matched each course topic. Because many positive cognitive and affective gains were observed in these classes, there was a need to confirm these impressions with more concrete data. In addition, because the majority of research on cooperative learning has been conducted at the K-12 levels, it was decided to examine the process at the university level in order to consider its implications for the organization of teacher preparation coursework.

Research in five secondary General Methods courses was concerned with students' perceptions regarding the efficacy of learning in teams vs. a traditional lecture/discussion format in which students are not required to work together. This data reflects survey results collected on a five-point Likert scaled questionnaire administered to approximately 150 students during the 87-88 school year.

METHODOLOGY

Permanent teams were assigned by teaching subject (Math, English, etc.) and the following roles were self-selected: captain, recorder, monitor, and spokesperson. These roles were rotated three times as the semester progressed. After each teacher-directed explanation and demonstration, teams were given a practice activity requiring application of skills on topics that included: classroom discipline and motivation, unit and lesson planning, diagnosing, cooperative learning, study skills, and teaching thinking. All graded assignments were completed individually. At the end of the semester, students were given a five-point based Likert scaled questionnaire where 1 = Cooperative Learning is Significantly More Effective than Traditional Instruction and 5 = Cooperative Learning is Significantly Less Effective than Traditional Instruction. The survey contained eleven outcome measures: academic achievement, higher level thinking skills, interest in the subject matter, likelihood of attending class, frequency and quality of contact

with instructor, percent of class time on task, ability to diagnose own knowledge of course subject matter, frequency and quality of interactions with classmates, amount of class time necessary to reach mastery of a concept, general class morale, and rapport with teacher.

RESULTS

The percentage of respondents putting cooperative learning in the top two categories (significantly or somewhat more effective than traditional forms of instruction) ranged from 62% to 97%. Outcomes having to do with frequency and quality of student interaction (97%), class morale (91%), and higher level thinking skills (77%) were rated highest. Next ranked were rapport with teacher (79%), interest in subject matter (77%), and academic achievement (75%). These outcomes were followed by ability to diagnose own knowledge of subject matter (71%) amount of class time needed for mastery (68%), percent of time on task (66%) and likelihood of attending class (62%).

Students were also asked to express their thoughts about cooperative learning at the college level in narrative form at the end of the questionnaire. Comments clustered mainly around the following ideas: Sense of belonging, enjoyment, active involvement, higher thinking, interest, modeling of the method, self-assessment, alternative points of view and instructor contact.

DISCUSSION

In the secondary methods classes, student responses seemed to indicate cooperative learning was of significant value. The ratings for the two items regarding rapport and contact with instructor confirm this instructor's perceptions. When cooperative teams are productively working and exchanging ideas, the teacher is free to intervene in order to probe, question, facilitate, encourage, etc. From the instructor's point of view, the quality of contact with students is also significantly more effective. The high rating for class morale is supported by scenes of students racing into class to talk with teammates, friendly, boisterous discussions before class and at break, enthusiastic sharing of class notes and other materials, frequent expressed concern for each other's physical and emotional welfare and spontaneous applause for team contributions in class. The lower 66% rating for being on task is somewhat surprising since informal observations indicated that some students' attention wandered until team practice activities began. Many stated in passing that the activities were what kept them awake and focused after a long day. Student feedback that cooperative learning significantly affected their ability to think at a higher level (77%) was gratifying. All practice tasks usually required analytic or creative thinking and it appeared in class that students motivated each other to produce a more thoughtful

product by offering encouragement, alternative solutions, and constructive criticism. The academic achievement rating (75%) was also confirmed by comments in class when students expressed increased understanding of a concept or skill as teamwork progressed. Because the criteria for each task was clearly presented prior to each practice session, students were able to give each other clear direction and feedback.

It is difficult to completely separate students' responses as university-level participants in the cooperative learning process from their eager anticipation of using it in their own classrooms. They had read glowing testimonials of their peers who had completed the program and used cooperative learning successfully in challenging schools with students at all grades and ability levels. Prior to filling out the research questionnaire, students were asked to concentrate only on their own experience as learners in teams as opposed to the potential use of the strategy with secondary level students.

This instructor is encouraged by the data and views cooperative learning as not only a viable instructional strategy at the college level but as particularly effective in teacher education courses designed to model techniques for future classroom application.

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Appendix A. Secondary Student Questionnaire

INSTRUCTIONAL STRATEGIES EVALUATION

We are interested in assessing the relative strengths and weaknesses of Cooperative Learning at the college level. Although a great deal of empirical research has been done on Cooperative Learning at the K-12 level, relatively little has been done with college students. Your candid (and anonymous) response to this survey may help us identify appropriate applications of this relatively new instructional technique.

Below are listed a number of student skills and attitudes which college instructors might be interested in influencing. For each, give us your assessment concerning how effective are the Cooperative Learning experiences that you have had in this class. Compare those experiences with your prior experiences with other forms of college instruction (lecture, discussion, etc.). If you feel that, for that particular item, Cooperative Learning was more effective, fill in the appropriate box on the Op-Scan sheet. If you feel that other forms of college instruction for that particular item were more effective, indicate that on the Op-Scan sheet.

Response key for items:

A = Cooperative Learning is **SIGNIFICANTLY MORE EFFECTIVE** than more traditional forms of college instruction
B = Cooperative Learning is **SOMEWHAT MORE EFFECTIVE** than more traditional forms of college instruction
C = Cooperative Learning and more traditional forms of instruction are **EQUALLY EFFECTIVE**
D = Cooperative Learning is **SOMEWHAT LESS EFFECTIVE** than more traditional forms of college instruction
E = Cooperative Learning is **SIGNIFICANTLY LESS EFFECTIVE** than more traditional forms of college instruction

		SIG. MORE EFF.	SOME. MORE EFF.	EQ. EFF.	SOME. LESS EFF.	SIG. LESS EFF.
1.	General academic achievement	A	B	C	D	E
2.	Higher level thinking skills	A	B	C	D	E
3.	Interest in the subject matter	A	B	C	D	E
4.	Likelihood of my attending class	A	B	C	D	E
5.	Frequency and quality of contact with instructor	A	B	C	D	E

6.	Percent of class time that I am paying attention (time on task)	A	B	C	D	E
7.	My ability to diagnose my own knowledge of course subject matter	A	B	C	D	E
8.	Frequency, quality of interactions with classmates	A	B	C	D	E
9.	Amount of class time necessary to reach mastery of a concept	A	B	C	D	E
10.	General class morale	A	B	C	D	E
11.	Rapport with teacher	A	B	C	D	E

12. Below, please write your overall impressions of the effectiveness of Cooperative Learning in college classes.

Appendix B

TABLE I
Percentage of CSUDH Students in Secondary Teaching Methods I Responding That Cooperative Learning was "Significantly" or "Somewhat" More Effective Than Traditional Lecture or Lecture-Discussion College Classes Previously Taken
N=153: Fall-1987, Spring-1988, Summer-1988

		CL Signif. more Effect.	CL Somewhat more Effect.	CL Combined Sig. & Smwt more Effect.
1.	General Academic Achievement	28.7	46.7	75.3
2.	Higher Level Thinking Skills	39.7	37.1	76.8
3.	Interest in Subject Matter	39.5	37.5	77.0
4.	Likelihood of Students Attending Class	39.5	22.4	61.8
5.	Frequency and Quality of Contact w. Instructor	34.2	39.5	73.7
6.	Time on Task	28.9	36.2	65.1
7.	Ability to Diagnose Own Knowledge of Subject Matter	30.0	41.3	71.3
8.	Frequency/Quality of Interactions with Classmates	78.3	19.1	97.4
9.	Amount of Class Time Required to Reach Mastery	27.8	40.4	68.2
10.	General Class Morale	53.9	36.8	90.8
11.	Rapport with Instructor	43	35.8	78.8

Based on five-point Likert scale where 1=Significantly More Effective than traditional college instruction and 5=Significantly Less Effective than traditional college instruction.

Appendix C - Secondary

CATEGORIES AND FREQUENCIES OF POSITIVE STUDENT NARRATIVE COMMENTS

		# of Responses
1.	Peer contact increased sense of belonging.	15
2.	Learning was more enjoyable and less stressful	15
3.	Active involvement increased learning	14
4.	Effective method for university level	9
5.	Groupwork caused thinking at higher levels	8
6.	Interest level was increased	8
7.	Good to see method modeled in the classroom	6
8.	Opportunity to assess own learning during teamwork	5
9.	Opportunity to be exposed to alternative points of view	4
10.	More contact with the instructor	2

SPECIFIC COMMENTS FROM POSITIVE STUDENT NARRATIVE RESPONSES

CATEGORY ONE:

--I wasn't afraid to ask others if I didn't understand.
--Had someone to ask for help - not dependent on instructor.
--Impersonal nature of commuter campus decreased.
--Not alone with difficult subject matter.
--Helped to catch up when we missed class.
--Made friends and important contacts.
--Great staying with same group - love sharing and getting feedback.
--Someone cares if you are there or not.
--Felt closer to teacher and whole class.
--Felt confident of getting material if I couldn't attend.
--Felt that I wanted to do well for myself and my team.
--I interacted with people that I otherwise may not have.
--Felt like I had value.
--The bond I developed with my team made me want to attend more.

CATEGORY TWO:

--Learning was painless.
--A minimum of stress and fear.
--Liked emphasis on interaction.
--Don't feel intimidated or shy when contributing.
--Easier and more fun.
--We had a greater tendency to laugh.
--I looked forward to class after a long day of teaching.
--Less pressure--more sharing.

CATEGORY THREE:

--Information easily absorbed.
--More active I am in the learning process the more it sticks with me.
--Peer pressure to understand.
--Opportunity for practical application of learning.
--Information becomes internalized.
--I stayed more alert.
--Grasped material faster with better comprehension.
--Some days I had no brain waves and the group helped me to learn something.
--Learning is longer lasting.
--Makes problem-solving easier.
--Discussing with my team helped me understand the issues.
--If I had cooperative learning in my college chemistry class, I could have raised my grade.
--Helped my motivation to be so involved.
--Active participation was necessary.

CATEGORY FOUR:

--Superb college teaching method.
--Terrific experience.
--Highly effective.
--Good at college because students have many experiences to be shared.

CATEGORY FIVE:

--More stimulating intellectual experience.
--Challenged by groupmates to reach higher levels of thinking.
--Higher thinking because we had to talk through--couldn't be passive.
--Leads to discovery of new ideas.
--Less information covered but depth much better.
--Forces me to think.
--Makes you think more.

CATEGORY SIX:

--More interesting than a boring lecture.
--Helped keep me on task.
--Essential to help break up 3-hour college class.
--Increased my interest by 500%.

CATEGORY SEVEN:

--Valuable modeling for our classrooms.
--I want to use this method with my students.
--I now use it with my senior high students and it works great.
--I intend to use it with my unmotivated kids and hope it works.

CATEGORY EIGHT:

--I find out if I'm confused and if I really understand it.
--We are able to correct our own work.
--Helped to identify my own weak and strong points.
--Increased opportunity to immediately evaluate my own comprehension.
--Can diagnose myself when I have to explain it to others.

CATEGORY NINE:

--Different perspectives offered.
--Good for me to get exposed to insights different from mine.
--Motivating for adults to consider alternative opinions.

CATEGORY TEN:

--More quality time with the instructor.
--Teacher as facilitator -- more approachable.
--More interaction with the teacher.

CATEGORIES AND FREQUENCIES OF NEGATIVE COMMENTS

		# of Responses
1.	Member participation and interaction can be a problem.	8
2.	There was some distracting off-task behavior.	6
3.	Learning was not as efficient.	5

SPECIFIC COMMENTS FROM NEGATIVE STUDENT NARRATIVE RESPONSES

CATEGORY ONE:

--Some people are not willing to compromise.
--Tendency for followers to become dependent.
--Spokesperson sometimes changed what group had agreed on.
--Can become irritated with teammates.
--Not all participate fully.
--Potential for one person to dominate.

CATEGORY TWO:

--Some inappropriate socializing.
--Difficult to get everyone to stay on task.

CATEGORY THREE:

--Takes longer to get through an idea.
--Could do it better and faster myself.
--Slower group members can slow down the process.
--I learn more in traditional lecture.
--I prefer a more academic approach.

Annotated Bibliography Of Cooperative/Collaborative Learning*
Research and Practice (Primarily) at the Collegiate Level
(Preliminary Draft)

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PRIMARILY APPLIED WORKS (e.g. setting up classrooms for Collaborative or Cooperative Learning)

Billson, J.M. (1986). The college classroom as a small group: Some implications for teaching and learning. Teaching Sociology, 14, 143-151.
A discussion of 15 principles concerning effective implementation of Collaborative Learning in the college classroom. Literature on group processes and development brought to bear on the subject in a very practical way.

Bishop, W. (1988). Helping peer writing groups succeed. Teaching English in the Two Year College, 15, 120-125.
A short, practical paper detailing issues to be considered in setting up peer writing groups in college composition classes. Useful for anyone setting up Collaborative Learning in any discipline.

Bouton, C., & Garth, R. (Eds.). (1983). Learning in groups. San Francisco: Jossey-Bass.
A text in which a number of different chapter authors describe research and practice in Collaborative Learning. A good overview concerning how Collaborative Learning can be applied in a variety of college disciplines. Recommended for the new practitioner and those already implementing collaborative techniques.

Bruffee, K. A. (1985). A short course in writing. Boston: Little, Brown.
A very applied short text on using Collaborative Learning in the teaching of college writing. Useful for faculty teaching writing, and for college faculty in other disciplines as well.

Cooper, J. L., Sanchez, P., Prescott, S., & Lawrence, T. Cooperative learning and college instruction: Part II. (1988, April). Paper presented at the meeting of the Western Psychological Association, San Francisco, CA.
A set of handouts which describe the characteristics of Cooperative Learning, positive outcomes associated with the use of the technique and a description of three applications of the technique by professors in different content areas. Also contains a summary of student perceptions (N=400+) concerning the efficacy of the technique, indicating that students feel that Cooperative Learning improves higher

level thinking skill, general academic achievement and quality and frequency of student-student interactions when compared with traditional forms of college instruction.

DiPardo, A., Warshauer-Freedman, S. (1988) Peer response groups in the writing classroom: Theoretic foundations and new directions. Review of Educational Research, 58, 119-149. As noted in their abstract, this article "examines the pedagogical literature on response groups, places the literature in the context of current theories of teaching and learning of writing, and then examines the small number of studies of peer response groups." Suggests moving away from teacher-controlled response groups to student-centered peer talk during the writing process.

Feichtner, S.B., & Davis, A. (1984-5). Why some groups fail: A survey of students' experiences with learning groups. The Organizational Behavior Teaching Review, 9(4), 58-71. A description of good and bad Collaborative Learning procedures in college settings. Very practical.

Hanson, P. G. (1981). Learning through groups: A trainer's basic guide. San Diego: University Associates, Inc. A general overview of group learning techniques from the standpoint of a human relations trainer.

Johnson, D. W., & Johnson, R.T. (1987). Learning together and alone. New Jersey: Prentice-Hall. A good overview of Cooperative Learning from researcher/ practitioners who have done much of the landmark work in Cooperative Learning. Focus is on practical applications at the precollegiate (K-12) level, but ample discussion of generic principles applicable at all levels. Recommended for all practitioners seeking an overview of research and practice in Cooperative Learning.

Johnson, D.W., Johnson, R.T., & Smith, K. (1986). Academic conflict among students: Controversy and learning. In R. Feldman (Ed.), The social psychology of education, 199-231, Cambridge: Cambridge University Press. A textbook chapter which describes a specific form of Cooperative Learning known as structured controversy. In structured controversy, different members of the same learning team assume different positions concerning an issue in an attempt to ultimately maximize learning for all team members through discussion and research relating to the differing positions. Results indicate that this technique sparks conceptual conflict within students, creates epistemological curiosity and promotes higher-level thinking skills.

Johnson, R. T., Johnson, D.W., & Smith, K. (1988). Cooperative learning: An active learning strategy for the college classroom. Unpublished manuscript. University of Minnesota.
A brief description of several Cooperative Learning techniques which may be used in college settings, apparently based on applications in the authors' own classes. Problems with traditional lecture procedures are described.

McEnerney, K. (in press). Cooperative learning as a strategy in clinical laboratory science education. Clinical Laboratory Science.
Describes the features of Cooperative Learning and how CL can be applied in a college classroom. Although Clinical Science is the course content used in this paper, the information presented can be generalized to a variety of academic disciplines. Very practical.

Michaelsen, L., Watson, W.E. & Sharder, C. B. (1984-5). Informative testing--a practical approach for tutoring with groups. The Organizational Behavior Teaching Review, 9(4), 18-33.
A description of a collegiate Collaborative Learning technique, using organizational behavior as a framework. Focus is on the use of criterion-referenced testing to diagnosis and remediate students' learning.

Slavin, R., Sharan, S., Kagan, S., Hertz-Lazarawitz, R. Webb, C. & Schmuck, R. (Eds.). (1985). Learning to cooperate, cooperating to learn. New York: Plenum.
A compilation of chapters dealing with research and practice in Cooperative Learning. Chapter authors are some of the leading researchers/practitioners in the field. Focus is on precollegiate level. Chapters within the text are based on presentations made at the second meeting of the International Association for the Study of Cooperation in Education. Text can as easily be listed under the "Primarily Research" category of this bibliography, as with several other citations in this section.

Smith, K.A. (1984, February). Structured controversies. Engineering Education. 306-309.
A brief paper outlining the use of structured controversy within a Cooperative Learning context. Focus is on collegiate engineering courses, but applications can be made across many disciplines.

Smith, K.A., Johnson, D.W., & Johnson, R.T. (1981, December). Structuring learning goals to meet the goals of engineering education. Engineering Education. 221-226.
An application of Cooperative Learning techniques to collegiate engineering courses. Of interest to those

teaching at the collegiate level in any discipline.

Treisman, U. (1985). A study of the mathematics performance of black students at the University of California, Berkeley (Doctoral dissertation, University of California, Berkeley, 1986). Dissertation Abstracts International, 47, 1641-A.
A description of Treisman's important research concerning Collaborative Learning with minority math and science students at Berkeley. Black students enrolled in his enrichment program received significantly higher grade point averages in freshman calculus, graduated in math-based majors four times more often, and had significantly lower attrition rates than comparable black students not enrolled in the program. Treisman's model now used at a number of colleges in math, science and engineering programs, with minority and other students. Call or write Treisman for materials or sites near you using the technique.

Wales, C.E. & Stager, R.A. (1977). Guided design. Morgantown, WV: University Center for Guided Design.
A good general introduction to Guided Design, a technique for teaching problem solving. Typically, teams of students are led to the solution of complicated problems through a series of structured steps, designed by the teacher.

Weiner, H.S. (1986). Collaborative learning in the classroom: A guide to evaluation. College English, 48(1), 52-61.
A description of the teacher's role in setting up college courses using Collaborative Learning.

Whipple, W. (1987). Collaborative Learning: Recognizing it when we see it. American Association for Higher Education, 40(2), 3-7.
A short overview paper offering characteristics of Collaborative Learning from Bill Whipple, who chairs AAHE's Collaborative Learning Action Community (CUE).

PRIMARILY RESEARCH WORKS

Dansereau, D.F. Cooperative learning: impact on acquisition of knowledge and skills. U.S. Army Research Institute for the Behavioral and Social Sciences, Sept. 1983. (ERIC Document Reproduction No. ED 243 088)
A research article in which college students working in pairs for a short period of time were compared with those working alone, in an attempt to master and retain information contained in a science text. Results indicated that working in pairs was consistently more effective than working alone. Article also discusses effect of role played

within pair (active recaller of information versus person listening--the former learned more). Learning style (field dependent/independent) was also examined.

Fraser, S.C., Diener, E., Beaman, A., & Kelem, R. (1977). Two, three or four heads are better than one: Modification of college performance by peer monitoring. Journal of Educational Psychology, 69, 101-108.
A study in which students were paired with either one, two or three peers. Such groupings are compared with students working individually. Results indicate that those in groups of any size received higher course grades than those working alone.

Frierson, H. (1986). Two intervention methods: Effects on groups of predominantly black nursing students' board scores. Journal of Research and Development in Education, 19, 18-23.
A study of 139 nursing students attending a predominantly Black southern state college. Students studying cooperatively for the exam and who also received instruction in test taking strategies received higher state board exam scores than nursing students receiving either no intervention or who received just test taking strategies instruction.

Johnson, D.W., Murayama, G., Johnson, R.T., Nelson, D., & Skon, L. (1981). Effect of cooperative, competitive and individualistic goal structures on achievement: A meta-analysis. Psychological Bulletin, 89, 47-62.
Classic meta-analysis in the Cooperative Learning literature. A review of 122 studies (largely K-12) comparing the effect of cooperative, competitive and individualistic goal structures in promoting student achievement and productivity. Results of the meta-analysis indicate that cooperation is considerably more effective than competitive or individualistic goal structures. Potential mediating variables accounting for the results are described.

Newmann, F., Thompson, J.A., (1987). Effects of cooperative learning on achievement in secondary schools: A summary of research. (Monograph). Madison: University of Wisconsin, National Center on Effective Secondary Schools.
A summary of twenty-seven high quality studies concerning Cooperative Learning and student achievement at the secondary level. The authors found that Cooperative Learning had higher success rates in mathematics and language arts (v.s. other academic content areas) and that cooperative techniques like Students Teams Achievement Division, Teams Games Tournaments, Learning Together and Group Investigation had higher success rates than Jigsaw.

Slavin, R.E. (1983). When does cooperative learning increase student achievement? Psychological Bulletin, 94(3), 429-445.
Slavin, in a meta-analysis requiring more stringent criteria for inclusion in the analysis than did Johnson et. al. (1981), found that in 46 field experiments at the K-12 level, Cooperative Learning produced greater achievement than control treatments in 29 studies and that control treatments produced greater achievement in two studies.

Tjosvold, D., & Field, R. (1984). Effect of concurrence, controversy and consensus on group decision making. The Journal of Social Psychology, 125(3), 355-363.
A study in which 78 collegiate business students were instructed to seek concurrence, controversy or consensus within small groups. The controversy approach seemed to be a more reliable way to explore an issue when compared to the other two approaches. Results indicate that group members who had conflicting opinions and encouraged controversy were more curious about a problem and explored the problem in-depth, but, despite this cognitive conflict they did not make high-quality decisions.

* Since most of the Cooperative Learning work has been done at the K-12 level and has application to older learners, a limited number of these precollegiate works have been included. A number of works which appear to be compatible with Cooperative Learning have also been included, such as a limited number of Collaborative Learning, Organizational Behavior and Guided Design citations. We do not claim that this is an exhaustive listing of research or practice in any of the areas named above. We welcome additions and amendments to this listing. If you have such suggestions, please send them to Jim Cooper (Office of Faculty Development, CSUDH, Carson CA 90747, or call 213-516-3961) and they may be included in succeeding drafts of this "work in progress".